

REMARKS

Applicant submits that the examiner's imposition of a final rejection in the Office Action of 07/08/2003 is premature, and should be withdrawn, for the following reasons.

37 CFR 1.113(a) provides that "on the second or any subsequent examination or consideration the rejection or other action may be made final" [Emphasis added]. (See, also, MPEP § 706.07). It is axiomatic that for a second examination to take place, it is necessary for a first examination to have been made. In this case, no complete first examination has taken place. As applicant pointed out in the Remarks section of the first Amendment filed 04/11/2003 herein:

"Claims 49, 51 and 66-67 stand rejected under 35 USC 103(a) as being unpatentable over Shennib '332/Shennib '104? in view of Anderson. The rejection is not understood since Shennib is referred to but Brillhart's patent is cited. Applicant requests clarification in order to permit preparation of an appropriate response.

Claim 52 stands rejected under 35 USC 103(a) as being unpatentable over Shennib ('332 or '104?) in view of King and Anderson. The rejection is not understood since Shennib is referred to but Brillhart's patent is cited. Applicant requests clarification in order to permit preparation of an appropriate response.." [Emphasis added].

MPEP § 706.07 cites 37 CFR 1.113, and further states, at the outset:

"Before final rejection is in order a clear issue should be developed between the examiner and applicant. To bring the prosecution to as speedy conclusion as possible and at the same time to deal justly by both the applicant and the public, the invention as disclosed and claimed should be thoroughly searched in the first action and the references fully applied;" [Emphasis added].

In the current Action to which this amendment is a response, examiner has not even acknowledged applicant's citing of defects in these two rejections, but instead, has simply applied a pair of new rejections, namely:

Claims 49, 51, 66-67 are rejected under 35 USC 103(a) as being unpatentable over Shennib (US PAT. 5,197,332) as modified by Lotito (US PAT. 6,304,179) as applied to claim 37 above, and further in view of Anderson (US PAT. 5,721,783). [Page 13, section 18].

* * *

Claim 52 is rejected under 35 USC 103(a) as being unpatentable over Shennib (US PAT. 5,197,332) as modified by Lotito (US PAT. 6,304,179) as applied to claim 37 above, and further in view of King (US PAT. 4,615,007) and Anderson (US PAT. 5,721,783). [Page 13, section 19].

These new rejections, in fact, constitute a first examination of the cited claims. Clearly, then, the mandates of the Code and the Manual have not been followed either in the first Action or in the second Action. Accordingly, applicant submits that in the circumstances present here, making the second Action final was improper as being premature, and applicant requests that the finality of the Action be withdrawn.

Assuming that the final rejection will indeed be withdrawn, applicant has the right to submit the above amendments of claims at this time. Applicant also advises examiner that at least two of the rejections set forth in the current Action lack clarity. The reasons are noted in the responses below.

Claims 2, 15, 29, 42-47, 51-55, 59, 60, 62, 64, 65, 68, 69, 72, 73, 76-80, 83, 91-93, 103-105 and 109 have been canceled, because applicant believes the invention is adequately covered by the remaining claims. Claims 1, 16, 18, 27, 28, 30, 34, 37, 48-50, 61, 63, 67, 70, 84-86, and 98-100 have been amended for the sake of clarification of the invention claimed therein. Neither these claim cancellations nor claim amendments are attributable to any anticipation, teaching, suggestion or otherwise discernible from the applied references of record, as will be seen from the specific responses set forth below. The responses are framed in terms of the respective rejections, but the applicant's comments apply only to the remaining claims as amended herein.

Claims 98-109 stand rejected under 35 U.S.C. 112, first paragraph, on alleged lack of an enabling disclosure for the former limitation of "performing automatic position sensing to properly position said individual relative to said device so as to perform hearing evaluation of said individual based on said acoustic test stimuli," in claim 98. It is not clear to applicant whether examiner's position is that enablement is lacking as to the entire limitation or merely as to the term "automatic."

At page 6 of the specification, immediately preceding the sentence quoted by the examiner in support of this rejection, it is stated that the device of the “invention comprises an ultrasonic position sensor for measuring the distance of the device with respect to the head of the test subject holding the hand held device. This distance is computed by measuring the latent period between the transmitted ultrasonic signal and the measured ultrasonic response reflected by the head or the ear. The acoustic test stimuli produced by a speaker of the device are controlled and regulated based on the position of the device with respect to the test individual. Thus, the accurate levels of test stimuli are presented upon positioning of the device and distance from the subject’s head or portion thereof. This eliminates position and movement-related errors commonly experienced in conventional sound field audiometry.” Later, the detailed description elaborates on position sensing and the method used to achieve it, for example from page 10, line 7 to page 12, line 9; page 11, line 2 to page 13, line 20; page 14, line 15 to page 15, line 8; page 22, lines 3-10; and page 23, lines 3-9. Accordingly, the specification supports the overall limitation.

However, if the examiner is focusing only on the term “automatic” as not being supported, i.e., that performance is manual, the rejection is overcome in this Amendment by deletion of the term “automatic” from independent main claim 98. That term (or the term “automatically”) has also been deleted from independent main claims 37, 70 and 84 and from dependent claim 73, although none of those claims is similarly rejected in the Office Action for alleged lack of an enabling specification. Examiner is requested to clarify the basis for the Section 112, first paragraph rejection so that applicant may more fully reply, if the rejection has been misinterpreted by applicant.

Claims 1-3, 5, 7-9, 14, 20-22, 31-32 and 35 stand rejected under 35 USC 103(a) as being unpatentable over Brillhart US 5,303,306 (“Brillhart”) in view of Sharma et al US 5,615,229 (“Sharma”). This rejection is traversed for the following reasons. The basis for the traversal will be directed to parent claim 1, which is amended herein to incorporate the limitations of former dependent claim 2, now canceled. As will be apparent from the remarks, however, claim 1 clearly and patentably defined over the references of record even prior to this amendment.

Applicant's invention is directed to a hand-held personal hearing evaluation device that includes an audio transducer such as a speaker for presenting acoustic test stimuli to a test subject within the direct sound field range of the device, such as delivery of accurate multi-level and multi-frequency test stimuli for subjective response by the test subject holding the device, including hearing evaluation of the test subject with or without wearing a hearing aid. The personal hearing evaluation device is constructed and adapted to be hand-held and to direct sound from an integral speaker toward an ear of the user in a contactless manner (i.e., without physical contact or connection between the test subject and the test stimuli delivery apparatus or the response analysis or evaluation apparatus, other than the mere holding of the device itself), within the direct sound field range of the speaker.

A position sensor measures the distance of the hand held hearing evaluation device from the head or portion of the head of the test subject as he or she is holding the device. Distance is calculated, for example, by measuring the latent period between the transmitted ultrasonic signal and the measured ultrasonic response reflected by the head or the ear, and the acoustic test stimuli produced by the speaker are controlled and regulated based on the distance of the device relative to the test individual, so that accurate levels of test stimuli are delivered upon the proper positioning of the device and irrespective of the exact position of the device, to eliminate position and movement-related errors encountered in conventional sound field audiometry. The test subject or test operator is alerted if the device is incorrectly positioned during a test.

The device may be connected to an auxiliary instrument such as a computer or a microprocessor-based audiometer for remotely controlling the device and for registering audible responses by means of a response switch on the device. At least two keys of the device are made available for selecting and presenting at least two stimulus levels, for use by the test subject to check the function of a hearing device worn by the subject. Switches on the device enable selecting one of at least two signal types such as noise and speech, and for selecting at least two frequency bands such as low and high tones.

Claim 1, as amended, calls for a device for performing sound field hearing testing, comprising an audio transducer for producing acoustic test stimuli to a test subject within the

direct sound field range of the audio transducer, a contactless position sensor system for measuring the distance of the device with respect to the head or part thereof of the test subject, and means for adjusting characteristics of the acoustic test stimuli in response to distance measurements performed by the position sensor system, whereby hearing evaluation of the test subject is performed by the device based on the acoustic test stimuli.

Brillhart discloses a hearing aid in conjunction with a programmable, hand-held remote control ("remote") for deriving settings to configure the hearing aid, to avoid a need to store numerous settings on board the hearing aid itself, as is done in the prior art. Brillhart's purpose is to eliminate the large size and complexity of a hearing aid necessitated by the latter, by providing the remote as companion for storing all the available settings for the hearing aid (col. 3, lines 6-11; i.e., 3:6-11). The audiologist performs standard tests on the hearing aid patient to assess audiogram curve shape, magnitude of hearing loss, most comfortable loudness level ("MCL") and loudness discomfort level ("LDL"), and then matches the shape of the audiogram curve obtained from the patient's hearing tests to a set of template overlays to determine the magnitude of hearing loss, and, also using the measurements of MCL and LDL, to derive a set of baseline settings for the ear which are then entered into the remote. The baseline settings consist of filter break frequencies, break slopes, relative gain between high frequency and low frequency amplifiers, maximum power output, and dynamic range compression constant. (3:12-37; 7:29-8:3).

The patient can modify the baseline settings by using keys on the remote that correspond to different sound environments (e.g., standard, such as automobile, fan, phone, television, music, voice, and restaurant; or custom programmed, such as workplace), or volume control (3:38-58). By depressing a key on the remote, the baseline settings for the particular sound environment are modified through an internal computer program (3:59-63). The baseline/modified baseline settings are encoded by an encoder 58, and transmitted to the hearing aid as a series of infrared radiation (IR) pulses 15 by driver 60. (6:21-26).

The hearing aid 10 (FIG. 1) has a microphone 12 for receiving sound and converting it to an electrical signal; an IR sensor 14 for receiving signal 15 sent from the remote 20; and a

speaker (receiver) 18 that converts the signal processed by the hearing aid to sound and directs it into the ear. (4: 26-35).

A keypad 22 on the remote (FIG. 1) has volume control keys 24, standard sound environmental keys 26, and custom sound environmental keys 28. Keys 26 activate a computer program in the remote to configure the circuitry of the hearing aid to different circuit settings appropriate for different sound environments, by changing the values of the filter break frequencies, the break slopes, the relative gain between the high and low frequency amplifiers, the maximum power output, and the dynamic range compression constant. An IR directional panel 30 is angled to transmit IR perpendicular to the face of the remote to allow the patient to hold the remote and direct the IR towards the hearing aid in the patient's ear (4:46-5:14).

A microprocessor 50 (FIG. 2) is controlled by instructions of a computer program stored in memory 52. The patient's baseline reference data are stored in memory 56 (e.g., dip switches) and the patient's actual baseline settings are stored in memory 55. (5:32-54).

In the hearing aid, microphone 62 (FIGS. 3 and 4) receives sound and converts it to an electrical signal, which is fed to an analog amplifier 64 connected to both a low frequency bandpass filter 66 and a high frequency bandpass filter 80. The outputs of filters 66 and 80 are subjected to dynamic range compression, and then delivered to amplifier 104 that supplies input to speaker (receiver) 106. (6:31-63).

The remote transmits bursts of IR pulses 15 spaced apart in time to synchronize the receiver with the transmitter. The receiver is connected to decoder 112. A sensor 110 samples the output of the remote. When a burst of IR is received while sampling, a digital 1 is passed to a shift register 114; and when no burst of IR is received during sampling, a digital 0 is passed to the shift register. When all 1's or 0's have been loaded into the shift register, these values are passed to a connected digital control circuit. Accordingly, the microphone output signal is processed according to the transfer characteristics (FIG. 4) and is outputted through the speaker as sound, directed into the ear channel. (6:64-7:28).

It should be quite apparent that applicant's invention and Brillhart's disclosure constitute a *difference in kind*, and not merely a *difference in degree*. Brillhart teaches a

hearing aid, not a device for performing sound field hearing testing as taught by applicant. In point of fact, no relationship exists between the two other than that both have relevance to the broad field of hearing. Granted that Brillhart employs a hand-held remote control device, but it is merely an essential part of that reference's overall hearing device. Functions that are normally contained within or programmably entered into a conventional hearing aid itself (including hearing aids that constituted prior art at the time Brillhart's patent application was filed) are off-loaded by Brillhart into the remote, to reduce the size and complexity of the hearing aid actually worn by the patient. If the patient's audiogram, sound environment or other parameters change, and the patient desires to modify the hearing aid settings accordingly, he or she makes the modifications using the remote. This does not constitute sound field hearing testing in even the most remote sense.

Now contrast this with applicant's device, which is specifically for performing accurate sound field hearing testing, as disclosed and claimed. An audio transducer produces acoustic test stimuli to a test subject within the direct sound field range of the transducer, and a contactless position sensor system remotely measures the distance of the device from the test subject's head (while the test subject is holding the device). The characteristics of the acoustic test stimuli are adjusted in response to distance measurements performed by the position sensor system. This allows the hearing evaluation of the test subject to be performed by the device based on the acoustic test stimuli. This achievement serves to eliminate position- and movement-related errors that are almost invariably encountered in conventional sound field audiometry.

With all due respect, examiner's position respecting Brillhart's disclosure is fraught with error. For example, examiner maintains that Brillhart teaches a device having the feature of "an audio transducer for producing acoustic test stimuli to a test subject within the direct sound field range of said audio transducer" of applicant's claim 1. That assertion has no validity whatsoever. Brillhart's remote control doesn't produce acoustic test stimuli – rather, it produces bursts of infrared radiation pulses constituting baseline settings or modified settings of parameters of the hearing aid worn by the user. The same would be true irrespective of whether Brillhart used ultrasonic pulses (or "any other form of transmittable

radiation” as Brillhart puts it (5:9-11)) instead of IR. There is no testing going on here. There is only control of basic functions of the hearing aid itself. Component 106 of Brillhart’s FIG. 3, cited by examiner in purported support of his position, is inapposite, since it is described by Brillhart as the speaker or receiver of the hearing aid that directs sound into the ear channel (e.g., 7:25-28). It is not part of a hearing tester, nor even part of the remote control 20 of Brillhart’s disclosure.

Further, component 14 of Brillhart’s FIG. 2, and signal 15 of Brillhart’s FIG. 1, cited by examiner as foreshadowing applicant’s “contactless position sensor system for measuring the distance (or the position) of the head ... of the test subject” of applicant’s claim 1, is merely for detecting the received IR bursts. It is incapable of measuring the position or distance of the device (Brillhart’s remote control 20) with respect to the head or any other part of the test subject, and is not described or implied by Brillhart as being useful or usable for such a purpose (see, e.g., 4:30-32 and 6:64-69). Examiner has completely distorted the clear description presented by his own reference.

Still further, since no acoustic test stimuli are provided in the hearing aid device(s) (including the remote control) disclosed by Brillhart, there are no means for adjusting characteristics of acoustic test stimuli as contended by examiner in rejecting former claim 2 (the limitation in question is now part of claim 1 as amended). Examiner appears to misinterpret Brillhart’s disclosure in respect to testing. The testing referred to by Brillhart isn’t performed by the device(s). Rather, the baseline settings used to control the circuit settings of Brillhart are derived after the audiologist performs a series of standard tests on the patient using standard apparatus and conventional methods and protocol, and the data obtained from those tests are used by the audiologist to configure the circuit of FIG. 3. The tests are performed to obtain the audiogram (FIG. 5) and to determine the MCL and the LDL, so that the audiologist has adequate data to prescribe the baseline settings. The audiologist places a set of overlay templates over the audiogram to assess matching (or lack thereof), to determine the audiogram curve shape and the magnitude of loss, which the audiologist then enters in memory 56 of the remote, using dip switches (7:29-8:3).

And nothing in Brillhart's disclosure pertains to adjusting (automatically or otherwise) any characteristics of acoustic test stimuli, in response to position measurements performed by a position sensor system or otherwise, despite the assertion to the contrary by examiner. Examiner's citation of col. 4, line 15 through col. 5, line 20 of Brillhart as providing support for his assertion, is not understood either. Col. 4, lines 15-25 are completely irrelevant. And col. 4, line 26 through col. 5, line 14 recite structure and features of components of hearing aid 10 and remote control 20 and their operation, as more fully set out above, with no relevance to adjusting characteristics of acoustic test stimuli or to reliance on position measurement performed by a position sensor system.

Sharma deals with inductive coupling (magnetic) to transmit audio signals to a listener. Sharma's disclosure pertains to a short range wireless communication system. The passage in Sharma cited by the examiner in the rejection under consideration here merely discusses a technique to eliminate heavy dependence of the signal received by a group of listeners wearing headsets in a room containing a transmitting loop of the short range wireless communication system on orientation or distance of each listener's receiving element from the transmitting loop, and without substantial effect on signal to noise ratio. Not only does Sharma fail to cure the defects of Brillhart as a reference against applicant's claims, but absolutely no rational motivation exists to anyone of ordinary skill in the art to combine the disclosures of the two references for any purpose whatsoever, much less the purpose being promoted by the examiner.

Since claim 1 clearly and patentably defines over the references of record, whether applied alone or in any reasonable combination, it should be apparent that its dependent claims 3, 5, 7-9, 14, 20-22, 31-32 and 35 also define patentable subject matter over the references of record. Accordingly, it is submitted that applicant need not further discuss the assertions made by examiner in the statements of rejection of those dependent claims.

Claims 37-39, 41-43, 48, 50, 53-65, and 68 stand rejected under 35 USC 103(a) as being unpatentable over Shennib US 5,197,332 ("Shennib '332") in view of Lotito US 6,304,179 ("Lotito"). The rejection is traversed for reasons set forth below, which are primarily directed to parent claim 37. Former dependent claims 42, 43, 54, 55, 59, 60, 62, 64,

65 and 68 are canceled for reasons stated above.

As amended, applicant's main claim 37 recites a hand held device for performing sound field hearing evaluation in a contactless manner with respect to a test ear of a test subject, comprising an audio transducer for delivering acoustic test stimuli to the test subject holding the device within the direct sound field range of the audio transducer, means for selecting delivery of the acoustic test stimuli through the audio transducer at two or more intensity levels for performing one or more supra-threshold hearing measurements, means for selecting delivery of the acoustic test stimuli through the audio transducer in at least two frequency ranges for performing hearing evaluation in at least two frequency ranges, and a wireless position sensor for remotely measuring the distance of the device relative to the head or portion thereof of the test subject. Applicant's amendment of claim 37 is principally to overcome the issue presented by the term "automatically" as mentioned above.

Shennib '332 discloses a headset-based hearing tester and hearing aid programming instrument constituting a headband-shaped electronic module with a connected acoustic transducer module. The electronic module includes a microcontroller and memory storage for program code and patient data, and is used in conjunction with a hand-held patient response device to permit automatic hearing testing. Audio stimuli including test tones, speech and verbal instructions are retrieved from external memory cards. The instrument is capable of programming a programmable hearing aid through a port for direct wire programming or by means such as inductive coil coupling to a hearing aid equipped with a receiving coil. A "fitting prescription" is provided by computing hearing aid parameters. Here again, the reference does not teach or suggest a personal hearing evaluator of the type disclosed and claimed by applicant.

Examiner's statement of rejection disregards the fact that the Shennib '332 disclosure deals with *headset* (headphone) audiometry, in contrast to the *sound field* audiometry of the present invention. The difference is explained at the outset in the instant specification, e.g., at page 3 lines 4-15. Repeating that portion of the description:

"In headphone audiometry (TDH-39 type for example), *the distance between the test ear and the speaker is relatively stable thus*

alleviating the problem of speaker-subject positioning encountered in sound field audiometry. However, the headphone must be fitted in a sealing manner in order to minimize errors due to sound leakages that may occur at the headphone-ear contact area. Insert earphones (ER-3A type for example) also require a good sealing fit when inserted within the ear canal. Headphone and insert earphones can be uncomfortable and cumbersome for many individuals. Furthermore, headphone and insert earphones are particularly problematic for aided evaluation (with a hearing aid placed in the ear) because they generally interfere, physically and acoustically, with the proper function of a worn hearing device. Therefore, headphone and insert earphones are generally excluded from aided evaluation. Other problems associated with headphones and insert earphones include inaccuracies due to individual ear size variability and cabling interference and damage.” (Emphasis added).

Thus, the reference is irrelevant to any issue of position sensing for calibration of sound field test stimuli. For example, Shennib ‘332 lacks “a device for performing sound field hearing evaluation in a contactless manner,” or “audio transducer for delivering acoustic test stimuli to the test subject holding the device within the direct sound field range of the audio transducer,” as recited in claim 37. Hence, examiner’s assertion regarding the teachings of Shennib ‘332 in the paragraph bridging pages 4 and 5 of the Office Action is groundless. And examiner’s further assertion to the effect that Lotito teaches the “position sensor for measuring the distance of the device relative to the head or portion thereof of the test subject” that is lacking in Shennib ‘332 is also groundless, since distance measurement is not required for headphone audiometry, and therefore, no motivation exists to combine teachings of Shennib ‘332 with teachings of Lotito.

Moreover, Lotito’s invention pertains to an ultrasonic occupant position sensing system, particularly to detect and track the position of a vehicle’s occupant(s) in a crash to best deploy a safety restraint device, which is far removed from a hand held device for performing sound field hearing evaluation in a contactless manner with respect to a test ear of a test subject, as claimed in claim 37. The passage in Lotito cited by the examiner merely discusses the use of an ultrasonic transmitter and its signal reflected back from an occupant to a receiver to provide the position detecting and tracking function. Applicant has not alleged

to have invented position sensing or distance measuring *per se*.

Since claim 37 clearly and patentably defines over the references of record, whether applied alone or in any rationale combination, its dependent claims 38-39, 41, 48, 50, 53, 56-58, 61 and 63 likewise define patentable subject matter over the references of record. Accordingly, it is submitted that applicant need not further discuss the specific assertions made by examiner in rejecting those remaining dependent claims.

Claims 70-72, 75-78 and 81-82 stand rejected under 35 USC 103(a) as being unpatentable over Anderson US 5,721,783 (“Anderson”) in view of Lotito. The rejection is traversed for reasons set forth below, which are primarily directed to parent claim 70. Former dependent claims 72 and 76-78 are canceled for reasons stated above.

Main claim 70, as amended, calls for “a system for performing hearing evaluation of a test subject comprising a hand held device containing an audio transducer within, the hand held device being positioned within the direct sound field range of the audio transducer and positioned in a contactless manner with respect to a test ear of the test subject, an auxiliary instrument operably connected to the hand held device for remotely controlling the operation of the hand held device, means for selecting the delivery of acoustic test stimuli through the audio transducer at two or more intensity levels and at two or more frequency ranges, a contactless position sensor for remotely measuring the distance of the device relative to the head or portion of the head of the test subject, and means for adjusting the acoustic stimuli based on distance measured by the position sensor.”

Anderson discloses a *hearing aid* that communicates wirelessly *with a remote processor unit* (RPU) capable of enhancing audio signals by receiving sounds from the environment that are detected by a microphone of the hearing aid and delivered over a wireless link to the RPU. The RPU is utilized to avoid a need to place all system capabilities within the hearing aid itself (the earpiece) and thereby, to simplify earpiece design. Anderson is akin to Brillhart, not to applicant’s invention. In that Anderson teaches the use of additional, albeit remote apparatus to perform the otherwise normal functions of a conventional hearing aid, such as a programmable hearing aid without a personal remote. Here, also, the Anderson disclosure fails to anticipate, teach or suggest applicant’s hearing evaluation device or method

as disclosed and claimed.

As observed by examiner, Anderson lacks, among other things, “a position sensor for measuring the distance of the device relative to the head or portion of the head of interest of the test subject” as required by claim 70 even before the present amendment. Examiner proposes to overcome this deficiency of Anderson as a reference against claim 70 by combining Anderson with Lotito. Lotito’s teaching is briefly discussed above. Anderson does not require a position sensor as claimed in applicant’s claim 70, but as in the other rejections, this defect in logic is ignored in the statement of rejection in an attempt to use applicant’s own disclosure to make a connection. Aside from the requirement of the patent law that obviousness is to be determined as of the time the invention in question was made, and thus excludes applicant’s own disclosure, no motivation whatsoever exists to combine Lotito’s passenger crash position detection system with Anderson’s hearing aid.

Although not required to overcome the improper rejection of claim 70, the claim is further amended herein to include a limitation of “means for adjusting the acoustic stimuli based on distance measured by the position sensor.”

Since claim 70 clearly and patentably defines over the references of record, whether applied alone or in any rationale combination, it should be apparent that its dependent claims 71, 75 and 81-82 also define patentable subject matter over the references of record. Accordingly, it is submitted that applicant need not further discuss the assertions made by examiner in rejecting those dependent claims.

Claim 4 stands rejected under 35 USC 103(a) as being unpatentable over Brillhart as purportedly modified by Sharma in examiner’s rejection of claims 1-3, 5, 7-9, 14, 20-22, 31-32 and 35, above, and further in view of Luethi US 4,918,737 (“Luethi”). Claim 4 recites “the device of claim 1, wherein the device is configured as a wrist watch.” Hence, claim 4 is dependent on claim 1, so it contains all of the limitations of and further limits the parent claim.

This rejection is traversed. Brillhart and Sharma are inapposite for reasons set forth in applicant’s traversal of the rejection of parent (main) claim 1 etc., above, so the rejection here is submitted to be improper for the same reasons, irrespective of Luethi. The latter reference

describes no more than a hearing aid where control function signals for amplification are capacitively coupled for transmission to the hearing aid from a remote device in the form of a wristwatch, and the capacitance of the user's body is employed as part of the transmission system. Luethi fails to cure the defects of the alleged primary references as fully discussed in applicant's remarks regarding the rejection of claims 1 etc. Hence, the device of claim 4 is not anticipated or rendered obvious from the collection of unrelated references applied in the statement of rejection.

Claims 6 and 10-13 stand rejected under 35 USC 103(a) as being unpatentable over Brillhart as purportedly modified by Sharma in examiner's rejection of claims 1-3, 5, 7-9, 14, 20-22, 31-32 and 35, above, and further in view of Downs US 5,428,998 ("Downs"). Claim 6 calls for "the device of claim 1, including means for performing the hearing evaluation in an unaided condition in which the test subject is not wearing a hearing aid." Claims 10 and 11 require, respectively, "the device of claim 1, further comprising means for delivering at least one of the acoustic test stimuli within the soft level listening range of normal hearing individuals," and "the device of claim 10, wherein the soft level listening range is between 20 and 40 dB HL." Claims 12 and 13 set forth, respectively, "the device of claim 1, further comprising means for delivering at least one of the acoustic test stimuli within the comfortable level listening range of normal hearing individuals," and "the device of claim 12, wherein said comfortable level listening range is between 45 and 65 dB HL."

This rejection is traversed. Brillhart and Sharma are inapposite for reasons set forth in applicant's traversal of the rejection of parent (main) claim 1 etc., above. Therefore, the rejection here is submitted to be improper for the same reasons, irrespective of Downs.

Downs discloses a very simple infant hearing test apparatus asserted to be useful for early detection of hearing problems in infants up to about 18 month of age. The infant is subjected to two low level digitally stored test sounds imitating a human voice in the frequency range of about 2000 to 4000 Hz from apparatus placed at a "relatively long" distance of about 12 inches from the infant, and one considerably higher level sound at a "relatively close" distance of about 3 inches from the infant. The concept is simply a qualitative test to ascertain whether the infant responds to any of these sounds with a reflex

movement, such as blinking of an eye. Downs' disclosure is unrelated to the disclosures of either of the primary references, and even if it were it fails to cure the defects of the alleged primary references against the parent claim(s) as fully discussed in applicant's remarks regarding the rejection of claims 1 etc. Each of claims 6 and 10-13 is dependent on claim 1 directly or through an intervening claim. Therefore, each contains all of the limitations of parent claim 1 and further limits claim 1 and/or the respective intervening claim. Once again, examiner appears to be doing nothing more than selecting references in an unsupported effort to force a rejection based on applicant's own specification and claims, with absolutely no other rhyme or reason, and certainly no motivation gleaned from the references themselves. The purported "combination" utterly lacks an anticipation, teaching or suggestion of applicant's device as claimed in any of claims 6 or 10-13.

Claims 40 and 44-47 stand rejected under 35 USC 103(a) as being unpatentable over Shennib '332 in view of Lolito as applied by examiner in the rejection of claim 37, above, and further in view of Downs. The rejection is traversed. Shennib '332 and Lolito are inapposite for reasons set forth in applicant's traversal of the parent (main) claim 37. Therefore, the rejection here is submitted to be improper for the same reasons. Claim 40 is dependent on claim 37 and thus recites all of its limitations along with further limitations. Downs fails to cure the noted defects of the alleged primary references against the parent claim(s) as fully discussed in applicant's remarks regarding the rejection of claims 37 etc., above. Claims 44-47 are canceled for reasons stated earlier herein.

Claim 74 stands rejected under 35 USC 103(a) as being unpatentable over Anderson in view of Lotito as applied by examiner in the rejection of claim 74, above, and further in view of Downs. Claim 74 calls for "the system of claim 70, including means for performing the hearing evaluation in an unaided condition in which the test subject is not wearing a hearing aid." Thus, claim 74 contains all of the limitations of main (parent) claim 70 and further limits the system of claim 70. Accordingly, this rejection is traversed for the same reasons as set forth by applicant regarding the lack of relevance of Anderson and Lotito, alone or in any rational combination, in the traversal of the rejection of claim 70, irrespective of the disclosure of Downs. Downs, discussed above, fails to cure the noted defects of the alleged

primary references against the parent claim, and thus, against claim 74.

Claim 15 stands rejected under 35 USC 103(a) as being unpatentable over Brillhart in view of Sharma as applied in examiner's rejection of claims 1-3, 5, 7-9, 14, 20-22, 31-32 and 35, above, and further in view of King US 4,615,007 ("King"). Claim 15 is canceled herein only because its limitations are substantially incorporated in the limitations recited in its former parent claim 1, as amended.

Furthermore, examiner has mischaracterized the disclosure of King as teaching a contactless position sensor system for automatically computing or measuring the distance of the device with respect to the head or part thereof of the test subject, and thereby (according to examiner) supplying a "missing link" of the primary references as applied against the limitations recited in former claim 15. The examiner refers to component 34 of King's FIG. 1 as providing this function. In fact, however, King describes element 34 as a remote transducer or calibration probe which is clipped to the pinna of a patient's ear and having a flat response curve over the frequency band of interest, to detect a calibration signal and feed it back as an input to an analyzer 28 *through a signal line 36* (or signal line 38) for the other ear (3:62-4:22). This hardly conforms to the limitation in question.

And, in keeping with the pattern of the other rejections set forth in the Action, no motivation exists to combine the disclosures of the secondary reference(s) with the primary reference(s). As previously discussed, Brillhart's apparatus is a hearing aid with a companion remote control to off-load functions normally provided within or programmably entered into the hearing aid itself, to reduce the size and complexity of the hearing aid that is to be worn by the user. And Sharma uses inductive coupling to transmit audio signals to a listener in a short range communication system. King pertains to sound field testing with a calibration probe *directly contacting* the ear. None of these references have a connecting thread, teaching or suggestion that would lead one of ordinary skill in the art to combine them in the manner advanced by examiner.

Claim 16 stands rejected under 35 USC 103(a) as being unpatentable over Brillhart as purportedly modified by Sharma in examiner's rejection of claims 1-3, 5, 7-9, 14, 20-22, 31-32 and 35, above, and further in view of Eckstein US 4,964,304 ("Eckstein"). This rejection

is traversed.

The irrelevance of Brillhart and Sharma to the subject matter of claim 16's parent claim 1 has been discussed by applicant at length in these remarks. Claim 16, as amended herein to delete the term "automatically," contains all of the limitations of claim 1 and further limits the latter by reciting that the contactless position sensor system comprises means for determining if the device is within an operable range and orientation with respect to the head or part thereof of the test subject. Thus, the rejection of claim 16 is defective for the same reasons as are submitted above regarding the rejection of claim 1. Examiner asserts that Eckstein teaches the additional limitation of claim 16 -- again without citing any basis for a combination with Brillhart and Sharma, even if Eckstein were to correct the deficiencies of the primary references as applied against claim 1, which it doesn't.

It is submitted that this is another case of mischaracterization of a secondary reference's disclosure in an attempt to supply a "missing link" of the primary references. Contrary to examiner's assertion, Eckstein provides no teaching of a contactless position sensor system with means for determining if the device is within an operable range and orientation with respect to the head or part thereof of the test subject, whether in the abstract of Eckstein or elsewhere in the specification. Firstly, Eckstein discloses apparatus and method for performing *headset* or headphone audiometry, not for performing *sound field* hearing testing as required by claim 1 and thus, dependent claim 16 as well. Since Eckstein pertains to headphone audiometry, the specific position of the patient or distance of the patient from the speaker (earphones) is immaterial (e.g., 3:17-19). Secondly, Eckstein fails to disclose a *contactless* position sensor -- indeed, Eckstein's remote unit 14 is neither contactless (being a headset to be worn by the patient (e.g., 1: 56-57) so as to be able to hear an audio signal in the earphones 24, 26 (3:30-31)), nor a position sensor (again, see, e.g., 3:17-19). Rather, Eckstein discloses headphone audiometry apparatus for transmitting an FM radio signal incorporating an audio test signal to a preselected one of two receivers in the headset of a patient or headsets of a group of patients, so as to separately apply the test signal to each ear and to ascertain which ear (or ears) of the respective patient actually heard the test signal. Thirdly, Eckstein provides no teaching of a means for determining if the device is

within an operable range and orientation with respect to the head or part thereof of the patient. Eckstein's comments concerning the apparatus giving the patient virtually unlimited mobility during the testing procedure merely means that since the patient is wearing headphones, the only limitation on position of the patient relative to a base station 12 is that he or she not stray out of range of the FM radio transmission that carries the audiometric test signals (e.g., 3:51-59).

Claims 17, 19, 33 and 34 stand rejected under 35 USC 103(a) as being unpatentable over Brillhart as purportedly modified by Sharma in examiner's rejection of claims 1-3, 5, 7-9, 14, 20-22, 31-32 and 35, above, and further in view of Anderson. This rejection is traversed. Each of claims 17, 19, 33 and 34 depends directly, or in the case of claim 34, through intervening claim 33, on claim 1, and each further limits the subject matter of claim 1. Once again, it is submitted that the irrelevance of Brillhart and Sharma to the subject matter of parent claim 1 has been discussed by applicant sufficiently in these remarks to make it pointless to belabor the deficiencies here. Suffice it to say that, plainly and simply, the primary references either alone or in combination do not foreshadow, teach or suggest a personal hearing device for performing sound field hearing testing as claimed in claim 1; and are, *a fortiori*, inapplicable as references against claims dependent on claim 1. Further, the irrelevance of Anderson and lack of any motivational basis in the references themselves or elsewhere for combining Anderson with the primary references is also the subject of considerable discussion elsewhere in these remarks.

Still further, the statement of rejection of claim 70 asserts that Anderson "fails to teach a position sensor for measuring the position [or distance] of the device relative to the head or portion of the head of interest of the test subject" (Office Action, page 7, section 7, 3rd paragraph). Yet, this rejection of claims 17, 19 and 33 asserts that "Anderson discloses [a] contactless position sensor system comprising ...," which, presumably, is intended by examiner to refer to the limitation of a contactless position sensor system for measuring the distance of the device with respect to the head or part thereof of the test subject. This contradictory position appears elsewhere in the rejections, as discussed below, and is further evidence that the plain meaning of certain references is being distorted in the rejections to suit

the exigencies.

Claims 23-30 stand rejected under 35 USC 103(a) as being unpatentable over Brillhart as purportedly modified by Sharma in examiner's rejection of claims 1-3, 5, 7-9, 14, 20-22, 31-32 and 35, above, and further in view of Shennib '332. This rejection is traversed. Here yet again, (i) each of claims 23-30 depends directly or through intervening claims on claim 1 and each further limits the subject matter of claim 1, (ii) the irrelevance of Brillhart and Sharma to the subject matter of parent claim 1 has been thoroughly discussed by applicant, and (iii) accordingly, it is submitted that the rejection of claims 23-30 is defective. The same line of reasoning applies as in applicant's remarks pertaining to traversal of the immediately preceding rejection of claims 17, 19, 33 and 34, albeit the secondary (tertiary?) reference is different. Whatever may be disclosed in Shennib '332 regarding the further limitation of the parent claim in each of the claims under rejection here, it does not rise to a level of correcting the deficiencies of Brillhart and Sharma regarding their respective roles as alleged primary references against the claims in question.

Claim 36 stands rejected under 35 USC 103(a) as being unpatentable over Brillhart as purportedly modified by Sharma in examiner's rejection of claims 1-3, 5, 7-9, 14, 20-22, 31-32 and 35, above, and further in view of Shennib US 5,425,104 ("Shennib '104"). This rejection is traversed for the same reasons presented in applicant's remarks pertaining to traversal of the immediately preceding rejections of claims 17, 19, 33 and 34, and of claims 23-30, notwithstanding a difference in the lowest order reference applied in the respective rejection. Claim 36 further limits the subject matter of intervening claim 35, which further limits the subject matter of intervening claim 7, which further limits the subject matter of parent claim 1. Thus, claim 36 contains all of the limitations of claim 1 which, by any reasonable measure, are not encompassed by the disclosures of the two primary references. Shennib '104 pertains generally to a hearing system for enhancing the hearing of a user, not to a personal hearing device for performing sound field hearing testing, etc., as required by claim 36. Shennib '104's disclosure of drive means associated with a permanent magnet directly coupled to the tympanic membrane of the user does nothing to cure the defects of the primary references as applied in the rejection of claim 36.

Claim 69 stands rejected under 35 USC 103(a) as being unpatentable over Shennib '332 as purportedly modified by Lotito in examiner's rejection of claim 37, above, and further in view of Shennib '104. This rejection is traversed under the same line of reasoning presented in applicant's remarks pertaining to defects in the immediately preceding rejection of claim 36. Although claim 69 is canceled for reasons stated earlier herein, the cancellation is in no way attributable to the disclosures of the applied references. Claim 69 contained all of the limitations of its former parent claim 37, asserted to be patentable over these same references in previous remarks herein, as well as its own further limitations and those of the intervening claims.

Claims 49, 51, 66 and 67 stand rejected under 35 USC 103(a) as being unpatentable over Shennib '332 as purportedly modified by Lotito in examiner's rejection of claim 37, above, and further in view of Anderson. This rejection is traversed. The inapplicability of the two primary references Shennib '332 and Lotito has been discussed repeatedly in these remarks, in applicant's traversal of the rejection of claim 37, for example. The same remarks apply to this rejection, since each of claims 49, 66 and 67 include all of the limitations of parent claim 37 as well as their own further limitations. Claim 51 is canceled for reasons stated earlier herein. Claims 49 also contains the limitations of intervening claim 48, which recites, among other things, a contactless position sensor system for measuring the position of the device with respect to the head or part thereof of the test subject. Thus, in the statement of rejection here, the use of Anderson's disclosure again contradicts the basis on which that reference is applied in some of the other rejections, as pointed out above. In any event, the rejection is defective because of the deficiencies of the same primary references as applied against the parent claim, and because Anderson fails to cure any of those deficiencies.

Claim 52 stands rejected under 35 USC 103(a) as being unpatentable over Shennib '332 as purportedly modified by Lotito in examiner's rejection of claim 37, above, and further in view of King and Anderson. This rejection is traversed for the same reasons set forth in applicant's remarks pertaining to defects in the rejection of claim 37. Although claim 52 is canceled for reasons stated earlier herein, the cancellation is in no way attributable to the disclosures of the applied references. Claim 52 contained all of the limitations of its former

parent claim 37, asserted to be patentable over these same references in previous remarks herein, as well as its own further limitations.

Claims 73 and 83 stand rejected under 35 USC 103(a) as being unpatentable over Anderson as purportedly modified by Lotito in examiner's rejection of claim 70, above, and further in view of Eckstein. This rejection is traversed for the same reasons as are set forth in applicant's traversal of the rejection of parent claim 70, above. Although claims 73 and 83 are canceled for reasons stated earlier herein, their cancellation is in no way attributable to the disclosures of the applied references. Each of the now-canceled claims contained all of the limitations of their former parent claim 70, as well as their own further limitations.

Moreover, the rejection of claims 49, 51, 66 and 67 asserted that "Anderson teaches the hand held device of [sic] further including means for automatically adjusting the characteristics of said acoustic test stimuli, including onset, amplitude and frequency, in response to position measurements performed by said contactless position sensor system" (Office Action, page 13, section 18, 4th paragraph). In contrast, the current rejection asserts that "Anderson and Lotito *fail* to teach the system of [sic] including means for automatically adjusting the characteristics of said acoustic test stimuli, including onset, amplitude and frequency, in response to position measurements performed by said position sensor system" (page 14, section 20, 2nd paragraph). The latter assertion is correct, but again constitutes a contradictory interpretation of the same reference (Anderson), apparently simply to suit the "needs" of a rejection at hand.

Claims 84-91 and 93-97 stand rejected under 35 USC 103(a) as being unpatentable over Anderson in view of Eckstein, and further in view of Lolito. This rejection is traversed. Main (parent) claim 84, as amended herein (the amendment having been made purely for the sake of clarification and not because of any foreshadowing, teaching or suggestion by the applied references or any other references of record), recites a "method of evaluating a test subject's hearing with a device containing a contactless position sensor system and an audio transducer, the method comprising the steps of (a) measuring the distance of the subject's head or part thereof relative to the device with the position sensor system when the device is oriented toward the subject's head or part thereof; (b) determining any of the characteristics of

acoustic test stimuli from the audio transducer according to the measurement performed by the position sensor system; and (c) delivering the acoustic test stimuli to the test subject while the device is oriented toward the subject's head or part thereof." Therefore, each of the dependent claims 84-90 and 94-97 covered by this rejection contain those same limitations as well as their own respective limitations and the limitations of any respective intervening claims. Dependent claims 91 and 93 are canceled for reasons stated earlier herein.

Once again, the examiner is offering an interpretation of Anderson (Office Action, page 15, section 21, 3rd paragraph) which (although correct in this case) is at odds with the interpretation given to Anderson in some of the other rejections, such as in the rejection of claims 49, 51, 66 and 67 (page 13, section 18, 4th paragraph).

That aside, as pointed out earlier in these remarks, the specific position or distance of the patient from the transmitter is immaterial in the headphone audiometry of Eckstein; no position sensor, contactless or otherwise, is taught or suggested in the Eckstein disclosure; and, contrary to examiner's assertion, no teaching of a method step of determining characteristics of acoustic test stimuli from an audio transducer *according to measurement performed by a position sensor system* is anywhere to be found in Eckstein's disclosure, -- including the abstract which, for some unknown reason, is specifically cited but without explanation by the examiner. Indeed, why would Eckstein contain a teaching of such a method step if position or distance of the patient is immaterial and no position sensor is needed or suggested? And what is it that examiner sees in the Eckstein abstract that causes its abstract to be referred to whenever Eckstein is cited? The possible recording of "a predetermined pattern of test signals," and the possible "means ... for automatically transmitting the test signals and recording the patient response signals" in Eckstein's abstract, if they are what examiner is referring to, lack any relevance to a method step of "determining characteristics of acoustic test stimuli from an audio transducer according to measurement performed by a position sensor system" in claim 84.

The disclosure of Lotito is unrelated to either of Anderson or Eckstein, and lacks any motivation outside the four corners of applicant's specification and claims for combining those three references, for reasons previously set forth in these remarks.

Since the rejection as applied to main claim 84 is defective, the rejections of dependent claims 83-90 and 94-97, each of which contains at least all the limitations of claim 84, are, *ipso facto*, likewise defective -- irrespective of whatever else the examiner may be asserting relative to the purported teachings of the applied references.

Claims 98-101 stand rejected under 35 USC 103(a) as being unpatentable over Downs in view of Sharma. The rejection is not understood because examiner cites Downs but the patent number accompanying that citation is for Brillhart, not Downs Therefore, applicant is unable to provide a fully considered response to this rejection, and requests clarification from examiner and the opportunity to further reply accordingly.

Main claim 98, as amended herein, calls for a method of hearing evaluation for an individual holding a hand held device containing an audio transducer for delivering acoustic test stimuli in a contactless manner and within the direct sound field range of the audio transducer with respect to a test ear of the individual, including the steps of (a) performing position sensing to remotely measure distance of the individual relative to the device; (b) calibrating the acoustic test stimuli based on distance measured by the position sensing; (c) delivering at least two levels of the acoustic test stimuli to the test ear of the individual, and (d) delivering the acoustic test stimuli in at least two frequency ranges. The amendment has been made for purposes of clarification only. Each of claims 99-101 is dependent on claim 98.

Each of Brillhart, Downs and Sharma is discussed in detail earlier in these remarks. In brief, Brillhart discloses a hearing aid with an accompanying remote control that serves to offload some of the functions that would otherwise be incorporated in the hearing aid itself and thereby render it bulky and overly complex. That reference has absolutely zero relevance to a method of hearing evaluation for an individual holding a hand held device containing an audio transducer for delivering acoustic test stimuli in a contactless manner and within the direct sound field range of the audio transducer with respect to a test ear of the individual, or to any of the steps of such a method claimed in parent claim 98.

In brief, Downs discloses a simple infant hearing test apparatus where the infant is subjected to stored test sounds imitating a human voice with the infant positioned at distances

of about 12 inches and about 3 inches from the sound source. The infant is not required to be nor could it reliably be “holding a hand held device containing an audio transducer for delivering acoustic test stimuli in a contactless manner and within the direct sound field range of the audio transducer with respect to a test ear of the” infant, and among other deficiencies of Downs as a reference against claim 98, no position sensing is performed to measure distance of the infant relative to a hand held device; and no acoustic test stimuli are calibrated based on distance measured by position sensing. After all, the infant is either about 3 inches or about 12 inches away, or it isn’t. And the concept is simply a qualitative test to ascertain whether the infant responds to any of these sounds with a reflex movement, such as blinking of an eye.

In brief, Sharma discloses a short range wireless communication system that avoids amplitude variations and noise typically related to orientation and distance between the transmission and reception portions of the system by use of TVM and inductive or magnetic coupling (3:2-15). It does not pertain to the stated method or to any of the steps of that method claimed in parent claim 98. In the implementations of FIGS. 21 and 22, Sharma goes beyond the general and even detailed description of the communication system itself, and into a discussion of receiving apparatus, specifically a receiver unit 172 which, according to Sharma, may be configured as a headset 174 or a hearing aid worn by the user. In any event, this does not pertain to applicant’s claimed subject matter.

There is no motivation whatsoever to combine these references, and even the thought of doing so appears to be unjustified. Consider, for example, the following. It is desired to ascertain whether the baby responds to the sound of its mother’s recorded voice saying “Hi Baby,” or saying “BUH-BUH-BUH etc.,” or to the sound of a baby’s recorded crying. The response, if any, is observed if the baby blinks its eyes immediately as or after the recorded sound is played. This is from Downs’ disclosure. But the examiner is asserting here that some form of position sensing apparatus is needed, and further, that calibration of the test sounds based on the distance measured by the position sensor apparatus is needed (from Sharma? And, if so, where?). Or, in an example involving Brillhart, a hearing aid with an accompanying remote control that serves to offload some of the functions otherwise

incorporated in the hearing aid itself, requires, for some unknown reason, position sensing apparatus and calibration of test sounds based on the distance measured by the position sensor apparatus (from Sharma? – and again, where?). And why?

Thus, the applied references fail to meet the limitations recited in claim 98 or its dependent claims. Incidentally, but importantly, the hearing evaluation method of claim 98 doesn't require a test operator – the individual holding the hand held device from which the acoustic test stimuli are delivered in a contactless manner and within the direct sound field range of the stimuli source is the same individual whose test ear hearing is being evaluated.

Claims 102-109 stand rejected under 35 USC 103(a) as being unpatentable over Downs (here, understood from a correct citation of Downs patent number) as purportedly modified by Sharma “as applied in the rejection” of claim 1, and further in view of Shennib ‘332. In this case, the rejection is not understood because Downs is not even cited, much less modified by the teachings of Sharma as applied, in the rejection of claim 1. Rather, Brillhart is purportedly modified by the alleged teachings of Sharma in examiner's rejection of claim 1. It is impossible to know which reference(s) examiner is referring to here. Therefore, applicant is unable to provide a fully considered response to this rejection, and requests clarification from examiner and the opportunity to further reply accordingly.

Each of claims 102-109 is dependent on main claim 98, either directly or through one or more intervening claims. Accordingly, each contains at least all of the limitations of claim 98, putting aside for the time being the other limitations set forth in each. Since each of Downs and Sharma is established by applicant to be inapposite in remarks supporting traversal of the immediately preceding rejection of claim 98, each of those references is correspondingly deficient as a reference against the dependent claims. And the deficiencies of the disclosures and proposed combination of Brillhart and Sharma is likewise discussed at length in applicant's earlier remarks herein.

Shennib ‘332 lacks any disclosure of a method of hearing evaluation for an individual holding a hand held device containing an audio transducer for delivering acoustic test stimuli in a contactless manner and within the direct sound field range of the audio transducer with respect to a test ear of the individual, which includes steps of performing position sensing to

measure distance of the individual relative to the device; or calibrating the acoustic test stimuli based on distance measured by the position sensing. Accordingly, it, too, is irrelevant to the subject matter of the claims cited in this rejection, and it fails to cure the deficiencies of the primary references, whichever among Brillhart, Downs and Sharma they may be.

Claim 18 stands rejected under 35 USC 103(a) as being unpatentable over Brillhart in view of Sharma and Anderson as applied in examiner's rejection of claim 17, and further in view of King. Claim 18 is dependent on claim 17 which, in turn, is dependent on main claim 1. The rejection is traversed. Brillhart, Sharma and Anderson are irrelevant to the subject matter of claim 18 for the same reasons as are set forth in applicant's response to the rejection of claim 17. King is also discussed earlier herein, and found to lack limitations of claim 1, as amended, including for example, a *contactless* position sensor system. Further, King fails to *measure the distance* of a sound field hearing testing device with respect to the head or part thereof of interest of a test subject, and lacks means for adjusting characteristics of acoustic test stimuli *in response to distance measurements performed by a contactless position sensor system*, as required by claim 1, as well as deficiencies relative to the limitations of claims 17 and 18.

King discloses an audiological analyzer for delivering a predetermined sound pressure level (SPL) to a remote point in an uncontrolled environment. A frequency/level shaper positioned between a sound wave generator and a speaker is used to determine the level and frequency response of the generated signal. A stored calibration response curve is accessible to compensate for attenuation of the signal by the medium through which it is transmitted, to deliver the proper SPL to a patient's ear. A remote transducer 34 (*remote with respect to the analyzer, not the test subject*) is *fastened* to the patient's test ear (*and thus, not a contactless position sensor*). Transducer 34 has a flat response curve over the frequency band of interest to detect the calibration signal. The detected signal is fed back as an input to analyzer 28 via a wire or cable 36 (or 38) *connected to transducer 34*. Analyzer 28 performs time delay spectrometry (TDS) and generates an energy time curve (ETC) with a time window synchronized with *a predetermined time delay* constituting a function of the transmission medium and the distance between a speaker 12 and the transducer 34. (3:49-4:28).

Contrary to examiner's assertion, this technique is *not* used to compute or measure the distance between a sound field hearing testing device and the head of a test subject, but rather, to *analyze the SPL* during the time window (4::22-25), including the *attenuation of the signal through the transmission medium*. The proper SPL to be delivered to the patient's ear is determined in conjunction with the stored calibration response curve, for each frequency of a series of test signals to which the patient provides an evoked response for analysis (4:62-5:11). The frequency/level shaper enters a predetermined response simulating that of a corrective device, such as a hearing aid, so the tests can be repeated with adjustment based on response of the simulated hearing aid. Thus, the audiologist can determine from the analysis the appropriate corrective measures, and likelihood of correct selection of a hearing aid without actually fitting the patient with the hearing aid. (5:12-27).

Accordingly, in view of the deficiencies of the applied references, it is submitted that the rejection of claim 18 is improper.

Claim 92 stands rejected under 35 USC 103(a) as being unpatentable over Anderson in view of Lotito and Eckstein as applied by examiner in the rejection of claim 84, and further in view of Luethi. The rejection is traversed. Although claim 92 is canceled for reasons stated earlier herein, they are unrelated to the applied references, which are deficient for reasons stated in applicant's traversal of the rejection of claim 92's former parent claim 84.

Applicant requests that all of the rejections be withdrawn, other than those that are to be clarified by examiner pursuant to applicant's requests herein unless examiner chooses to withdraw them as well, and that this application be passed to issue.

For reasons amply discussed above, applicant protests examiner's indiscriminate use of references that are clearly irrelevant to applicant's *claimed* subject matter, as well as the number of references applied, and several cases of distortion of the plain disclosure and meaning presented by the references. These improprieties only result in waste of time and money for response, which are surely not in keeping with the stated efficient use of the patent process and the guidelines set forth in the MPEP. If examiner persists in such rejections, it is requested that he cite clear and unambiguous statements in the references themselves, with citation of the specific column and lines from which they are taken, for the purported support

of each rejection, and the specific basis for motivation to combine reference from other than a convenient plug-in based solely on applicant's own specific claim limitations.

Respectfully submitted,

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